

Long-Baseline Neutrino Experiment Near Detector Complex
Conceptual Design, Cost and Schedule Reviews
Closeout Report (Oct 5, 2010)

Recommendation Number	Date	Recommendation Description
1	5-Oct-10	The project should clarify what they expect to happen in the realm of hadron production measurements in the coming year.
Status	7-Oct-10	It is fully recognized that flux and cross section data needs to be understood in order to effectively perform oscillation analysis. Jeff needs to work to define this requirement and to investigate the possibility that hadron measurement data might become available from experiments conducted by other projects.
Action Plan		A plan must be developed to determine how best to accomplish this objective prior to the CD-1 review.
2	5-Oct-10	Although many of these scope decisions may not be possible by the time of a CD-1 review, a plan and schedule for making those decisions should be developed by that time.
Status	7-Oct-10	ND management fully agrees that a plan and schedule for making remaining scope decisions is necessary and will work to accomplish this objective prior to the CD-1 Review Meeting.
Action Plan		Christopher to work with Jim Strait to develop a strategy for coordinating this decision process with other subprojects within the LBNE Project to establish and expedite this process.
3	5-Oct-10	The highest priority scope decision to make is that of whether electron charge identification is required, and we recommend that this decision be made expeditiously.
Status	7-Oct-10	ND management fully agrees that this is a critical scope decision which should be given high attention.
Action Plan		TBD
4	5-Oct-10	The requirements should be developed recognizing the potential changes to the detector requirements based on improvements in our knowledge of theta₁₃ over the next decade.
Status	7-Oct-10	ND management fully agrees.
Action Plan		Christopher to discuss this issue with Jim Strait as this is perceived to be a project-wide issue.

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5	5-Oct-10	The LBNE Project should consider more globally what can be done in the far detector to reduce the far detector oscillation systematics: an example of this is looking at fully reconstructed neutral current π^0 events in the far detector to constrain that background.
Status	7-Oct-10	ND management fully agrees.
Action Plan		TBD
6	5-Oct-10	The project should consider what kinds of decisions can be made in advance of the final requirements document.
Status	7-Oct-10	ND management fully agrees. This is perceived to be largely Sam Zeller's responsibility and this effort is in process.
Action Plan		TBD
7	5-Oct-10	Update and complete the Key Assumptions Document, particularly with respect to cost and schedule issues.
Status	7-Oct-10	ND management fully agrees. This is recognized to be a NDC responsibility and effort is underway to accomplish this objective.
Action Plan		TBD
8	5-Oct-10	The Project Engineer should be hired expeditiously so that interfaces can be managed.
Status	7-Oct-10	ND management fully agrees. Efforts are underway to achieve this objective.
Action Plan		TBD
9	5-Oct-10	The interfaces throughout the entire sub-Project should be described in a more uniform fashion in the project documentation.
Status	7-Oct-10	ND management fully agrees. Efforts are underway to achieve this objective.
Action Plan		Christopher to meet with Jim Strait to discuss effective documentation of both project wide interfaces and formal documentation of performance requirements and high level project wide assumptions.

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10	5-Oct-10	More complete documentation of the new designs should be included in the Conceptual Design Report. The project should do the simulations on the detector performance, and when that is completed it should also be included in the Project documentation.
Status	7-Oct-10	ND management fully agrees. Efforts are underway to achieve this objective.
Action Plan	TBD	
11	5-Oct-10	Complete the CDR sections on Value Engineering, ES&H, and Quality Assurance.
Status	7-Oct-10	This is perceived to be a LBNE Project issue.
Action Plan	Christopher to meet with Jim Strait to discuss appropriate resolution of this recommendation.	
12	5-Oct-10	A schedule and a plan for adequate R&D for a magnetized LAr TPC needs to be developed. An R&D schedule that incorporates the decision making and far detector construction schedule should be developed for all the detector components.
Status	7-Oct-10	It is perceived that before an R&D schedule and plan be developed it is necessary to establish a set of "minimum" requirements to be met by a magnetized Lar TPC to determine if R&D effort is appropriate.
Action Plan	Bill to establish a proposed set of minimum requirements.	
13	5-Oct-10	The performance of the two straw tube tracker designs and the two barrel ECAL designs should be evaluated and presented.
Status	7-Oct-10	It is perceived that this is an inappropriate recommendation that it should be removed from the report.
Action Plan	TBD	
14	5-Oct-10	The L3 managers should review the information that is currently in the WBS and RLS.
Status	7-Oct-10	It is acknowledged that it is critical that the L3 managers review and "own" the content of the RLS.
Action Plan	ND Project Office to establish and implement a process for both schedule and cost estimate development that ensures L3 manager ownership and responsibility.	

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15	5-Oct-10	The L3 managers need to interface with the project office until the plans are accurately reflected in the WBS. Then those tasks should be resource loaded, again with the guidance from the L3 and L4 managers.
Status	7-Oct-10	It is acknowledged that it is critical that the L3 managers review and "own" the content of the RLS.
Action Plan		ND Project Office to establish and implement a process for both schedule and cost estimate development that ensures L3 manager ownership and responsibility for RLS content.
16	5-Oct-10	There needs to be a mechanism developed whereby contingency can be assigned for items that are of no cost to the project (scientific labor, existing equipment).
Status	7-Oct-10	Agreed.
Action Plan		Christopher to address this issue with Jim Strait to work towards establishing a project-wide process.
17	5-Oct-10	There needs to be a mechanism for appropriate schedule linkages to exist between the near detector and the far detector construction schedule, the Fermilab site civil construction.
Status	7-Oct-10	Agreed.
Action Plan		Christopher to address this issue with Jim Strait to work towards establishing a project-wide process.
18	5-Oct-10	The project management should unify and distribute the BOE documentation as soon as possible.
Status	7-Oct-10	Agreed.
Action Plan		Christopher to address this issue with Jim Strait to work towards establishing a project-wide process.
19	5-Oct-10	The L3 and L4 managers then need to update the BOE documentation well enough before a CD-1 review so that internal reviews of that documentation can take place.
Status	7-Oct-10	Agreed.
Action Plan		ND Project Office to establish and implement a process to ensure consistency and validity between the supporting BOE information and the resulting RLS.

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20	5-Oct-10	The Project Management should determine a dollar threshold for the tasks that need to have formal BOE's associated with them.
Status	7-Oct-10	Agreed. However, BOE estimates are to be prepared at an appropriate level of the WBS and not at the "activity" level.
Action Plan		ND Project Office to establish and implement a process to ensure consistency and validity between the supporting BOE information and the resulting RLS.
21	5-Oct-10	Incorporate ES&H mitigation into the schedule, and work closely with ES&H professionals and conventional facility personnel.
Status	7-Oct-10	Agreed.
Action Plan		Christopher to address this issue with Jim Strait to work towards establishing a project-wide process.
22	5-Oct-10	Project Management should set a date by which the Risk Analysis should be in place.
Status	7-Oct-10	Agreed. However, this is a continuing process and will go on throughout the execution of the project.
Action Plan		ND Project Office to establish and implement a process to ensure that the latest risk analysis information is properly documented in presentations and project documentation.